

10/1

Monday, October 01, 2012
9:59 AMMultiplying/Dividing MonomialsReview Exponents

$$4^2 = 4 \cdot 4$$

$$4^3 = 4 \cdot 4 \cdot 4$$

$$x^2 = x \cdot x$$

$$x^3 = x \cdot x \cdot x$$

So... $x^{\textcircled{2}} \cdot x^{\textcircled{3}} = x^5$ *add exponents

\downarrow
 $(x \cdot x) \cdot (x \cdot x \cdot x)$

Ex: ① $x^3 \cdot x^4 = x^7$

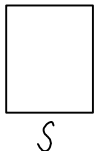
② $x^1 \cdot x^2 = x^3$

③ $\underline{3}x^2 \cdot \underline{5}x^4 = 15x^6$

④ $3x^2y \cdot 2xy^2 = 6x^3y^3$

⑤ $(-2a^2b)(3a^3)(4ab^2) = -24a^6b^3$

⑥ $\underline{3^2} \cdot \underline{3^4} = 3^6$
 bases match

⑦ Area of a square  $A = s \cdot s \Rightarrow s^2$
 $A = s^2$

⑧  $5x$ Find the area.
 $A = 5x \cdot 5x \Rightarrow 25x^2$

$$\overline{5x}$$

$$A = 5x \cdot 5x \Rightarrow 25x^2$$

$$(9) (-2xy^2)^3 \text{ means } (-2xy^2)(-2xy^2)(-2xy^2) = -8x^3y^6$$

Shortcut

Rule:

$$(x^a)^b = x^{ab} \quad \text{so, } (-2xy^2)^3 = (-2)^3 x^3 y^6 = -8x^3y^6$$

$$\begin{matrix} x^4 \\ \text{top} \end{matrix} \div \begin{matrix} x^3 \\ \text{bottom} \end{matrix} \text{ rewrite } \frac{x^4}{x^3} = \frac{\cancel{x} \cdot \cancel{x} \cdot \cancel{x} \cdot x}{\cancel{x} \cdot \cancel{x} \cdot \cancel{x}} = x$$

$$(1) \frac{x^3}{x^6} = \frac{\cancel{x} \cdot \cancel{x} \cdot \cancel{x}}{\cancel{x} \cdot \cancel{x} \cdot \cancel{x} \cdot \cancel{x} \cdot \cancel{x} \cdot \cancel{x}} = \frac{1}{x^3} \quad \text{* subtract exponents}$$

$$(2) \frac{10x^8}{2x^5} = 5x^3$$

$$(3) \frac{-8xy^3}{24xy} = \frac{-1y^2}{3} \quad \begin{matrix} \frac{yyy}{y} \\ \text{same} \end{matrix}$$